



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2020-0883; Project Identifier 2019-CE-034-AD]

RIN 2120-AA64

Airworthiness Directives; Rockwell Collins, Inc. Flight Display System Application

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to supersede Airworthiness Directive (AD) AD 2019-12-09, which applies to certain Rockwell Collins, Inc. (Rockwell Collins) FDSA-6500 flight display system applications installed on airplanes. AD 2019-12-09 imposes operating limitations on the traffic collision avoidance system (TCAS). AD 2019-12-09 was prompted by conflict between the TCAS display indications and aural alerts that may occur during a resolution advisory (RA) scenario. This proposed AD would retain the requirements of AD 2019-12-09 until a software upgrade is completed. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <https://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: (202) 493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Rockwell Collins at Collins Aviation Services, 400 Collins Road NE, M/S 164-100, Cedar Rapids, IA 52498-0001; phone: 319-295-9258; fax: 319-295-4351; email: techmanuals@rockwellcollins.com; website: https://www.rockwellcollins.com/Services_and_Support/Publications.aspx. You may view the service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

Examining the AD Docket

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0883; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, any comments received, and other information. The street address for Docket Operations is listed above.

FOR FURTHER INFORMATION CONTACT: Nhien Hoang, Aviation Safety Engineer, Wichita ACO Branch, FAA, 1801 Airport Road, Wichita, Kansas 67209; phone: (316) 946-4157; fax: (316) 946-4107; email: Nhien.Hoang@faa.gov or Wichita-COS@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2020-0883; Project Identifier 2019-CE-034-AD” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend the proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any

personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this proposed AD.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Nhien Hoang, Aviation Safety Engineer, Wichita ACO Branch, FAA, 1801 Airport Road, Wichita, Kansas 67209; phone: (316) 946-4157; fax: (316) 946-4107; email: Nhien.Hoang@faa.gov or Wichita-COS@faa.gov. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The FAA issued a final rule; request for comment to add AD 2019-12-09, Amendment 39-19664 (84 FR 32260, dated July 8, 2019), (AD 2019-12-09) for certain part-numbered Rockwell Collins FDSA-6500 flight display system applications. These applications may be installed on, but not limited to, Bombardier Inc. Model CL-600-2B16 (604 variant) airplanes and Textron Aviation Inc. Models 525B, B200, B200C, B200CGT, B200GT, B300, B300C, and C90GTi airplanes. AD 2019-12-09 resulted from a report that a conflict could occur between the TCAS primary cockpit display indications and the aural alerts during an RA scenario. During testing of a full flight simulator on a development program, the TCAS fly-to/avoidance cue indication on the primary cockpit displays conflicted with other TCAS system information, such as aural cues, during an RA scenario. While the aural alert will provide the pilot with accurate information to resolve the RA, that information is not accurately represented by the

TCAS fly-to/avoidance cue display. Specifically, the TCAS fly-to/avoidance cue is displayed relative to the aircraft horizon line instead of the aircraft symbol. Rockwell Collins determined that the data from the TCAS is being translated incorrectly by the FDSA-6500 software prior to display of the RA pitch indications.

AD 2019-12-09 prohibited operation with the TCAS in TA/RA mode by requiring a revision to the Limitations section of the airplane flight manual (AFM) or AFM supplement (AFMS) and by fabricating and installing a placard on each aircraft primary flight display. The FAA issued AD 2019-12-09 to prevent the pilot from over-correcting or under-correcting for aircraft separation, which may result in a mid-air collision.

The FAA issued AD 2019-12-09 as interim action. This NPRM would retain the operating prohibition of AD 2019-12-09 and would require installing updated software on the flight data system applications within 12 months. Once the software is upgraded, this NPRM proposes to allow removal of the limitations and placard. Because these proposed requirements would have a longer compliance time, the FAA is providing the public an opportunity to comment.

FAA's Determination

The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Related Service Information under 1 CFR Part 51

The FAA reviewed Rockwell Collins Service Information Letter FDSA-6500-19-1, Revision No. 2, dated June 12, 2019. This service information letter contains information regarding hardware and software compatibility for the FDSA-6500 flight display system and provides software download instructions. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Proposed AD Requirements in this NPRM

This proposed AD would retain the placard and operating requirements of AD 2019-12-09 and require updating the FDSA-6500 software. After this software update,

this proposed AD would allow removal of the placard and operating limitations required by AD 2019-12-09.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 932 FDSA-6500 flight display system applications installed on 311 airplanes worldwide. The FAA has no way of knowing the number of FDSA-6500 applications installed on airplanes of U.S. Registry. The estimated cost on U.S. operators reflects the maximum possible cost based on worldwide applications.

The FAA estimates the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Revise the Limitations section of the AFM or AFMS	.5 work-hour X \$85 per hour = \$42.50	Not applicable	\$42.50 (per airplane)	Up to \$13,217.50
Fabricate and install a placard	.5 work-hour X \$85 per hour = \$42.50	Negligible	\$42.50 (per primary flight display)	Up to \$39,610
FDSA-6500 software upgrade	1 work-hour x \$85 per hour = \$85	Not applicable	\$85 (per primary flight display)	Up to \$79,220

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some of the costs of this proposed AD may be covered under warranty, thereby reducing the cost impact on affected individuals. The FAA does not control warranty coverage for affected operators.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by:

- a. Removing Airworthiness Directive 2019-12-09, Amendment 39-19664 (84 FR

32260, dated July 8, 2019); and

b. Adding the following new airworthiness directive:

Rockwell Collins, Inc.: Docket No. FAA-2020-0883; Project Identifier 2019-CE-034-AD.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2019-12-09, Amendment 39-19664 (84 FR 32260, dated July 8, 2019) (AD 2019-12-09).

(c) Applicability

This AD applies to Rockwell Collins, Inc., (Rockwell Collins) Flight Display System Application FDSA-6500 part numbers (P/Ns) 810-0234-1H0001, 810-0234-1H0002, 810-0234-1H0003, 810-0234-2H0001, 810-0234-2C0001, 810-0234-2C0002, and 810-0234-4B0001. These applications are installed on, but not limited to, Bombardier Inc. Model CL-600-2B16 (604 variant) airplanes and Textron Aviation Inc. Models 525B, B200, B200C, B200CGT, B200GT, B300, B300C, and C90GTi airplanes, certificated in any category.

(d) Subject

Joint Aircraft System Component (JASC) Code 3400, NAVIGATION SYSTEM.

(e) Unsafe Condition

This AD was prompted by a conflict between the traffic collision avoidance system (TCAS) primary display indications and aural alerts during a resolution advisory (RA) scenario. The FAA is issuing this AD to prevent conflicting TCAS information, which could result in the pilot under-correcting or over-correcting and may lead to inadequate aircraft separation and a mid-air collision.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Actions

(1) Within 30 days after July 23, 2019 (the effective date of AD 2019-12-09), do the following:

(i) Revise the airplane flight manual (AFM) or AFM supplement (AFMS) by adding the following text to the Limitations section: For TCAS II installations, during flight, do not operate TCAS in the “TA/RA” mode; TCAS may only be operated in “TA Only” mode.

(ii) Fabricate a placard for each aircraft primary flight display, using at least 1/8 inch letters, with the following text: TCAS Flight Ops – TA Only mode (TA/RA mode prohibited).

(iii) Install the placard on the bottom of each aircraft primary flight display bezel in the area depicted in figure 1 to paragraph (g)(1)(iii) of this AD.

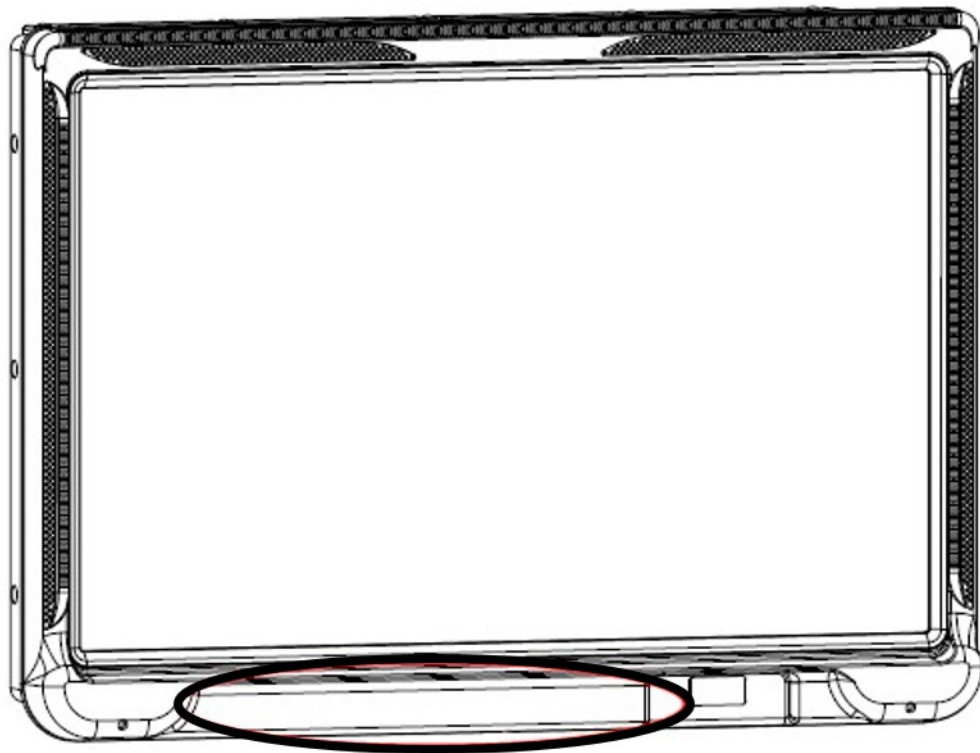


Figure 1 to paragraph (g)(1)(iii); placard location on bezel

Note 1 to paragraph (g)(1): In “TA/RA” mode, the TA stands for traffic advisory and RA stands for resolution advisory.

(2) In addition to the provisions of 14 CFR 43.3 and 43.7, the actions required by paragraphs (g)(1)(i) through (iii) of this AD may be performed by the owner/operator

(pilot) holding at least a private pilot certificate and must be entered into the aircraft records showing compliance with this AD in accordance with 14 CFR 43.9(a)(1) through (4) and 14 CFR 91.417(a)(2)(v). The record must be maintained as required by 14 CFR 91.417. This authority is not applicable to aircraft being operated under 14 CFR part 119.

(3) Within 12 months after the effective date of this AD, upgrade the FDSA-6500 field loadable software for your airplane as listed in the table in Section C and by following the instructions in Section F of Rockwell Collins Service Information Letter FDSA-6500-19-1, Revision No. 2, dated June 12, 2019.

(4) The airplane flight manual revision and placards required by paragraph (g)(1) of this AD may be removed after completing the software upgrade required by paragraph (g)(3) of this AD.

(5) As of the effective date of this AD, do not install a Rockwell Collins Flight Display System Application FDSA-6500 P/N 810-0234-1H0001, 810-0234-1H0002, 810-0234-1H0003, 810-0234-2H0001, 810-0234-2C0001, 810-0234-2C0002, or 810-0234-4B0001 on any airplane.

(h) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Wichita ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in Related Information.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(i) Related Information

(1) For more information about this AD, contact Nhien Hoang, Aviation Safety Engineer, Wichita ACO Branch, FAA, 1801 Airport Road, Room 100, Wichita, Kansas 67209; phone: (316) 946-4157; fax: (316) 946-4107; email: nhien.hoang@faa.gov or Wichita-COS@faa.gov.

(2) For service information identified in this AD, contact Rockwell Collins, Inc. at Collins Aviation Services, 400 Collins Road NE, M/S 164-100, Cedar Rapids, IA 52498-0001; phone: (319) 295-9258; fax: (319) 295-4351; email: techmanuals@rockwellcollins.com; website: https://www.rockwellcollins.com/Services_and_Support/Publications.aspx. You may view this referenced service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (816)329-4148.

Issued on December 8, 2020.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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